

Claims

1. A polypeptide which comprises the 237th to 531st amino acid sequence in the amino acid sequence represented by SEQ ID NO:2 and is an enzyme which shows a protease activity.
2. A polypeptide consisting of the 237th to 531st amino acid sequence in the amino acid sequence represented by SEQ ID NO:2.
3. A polypeptide which comprises the 51st to 531st amino acid sequence in the amino acid sequence represented by SEQ ID NO:2 and is a precursor of an enzyme which shows a protease activity.
4. A polypeptide which comprises an amino acid sequence in which the 51st to 531st amino acid sequence in the amino acid sequence represented by SEQ ID NO:2 is conjugated to the C-terminus side of
an amino acid sequence consisting of the 1st to 50th amino acid sequence in the amino acid sequence represented by SEQ ID NO:2, or
an amino acid sequence comprising the 1st to 50th amino acid sequence in the amino acid sequence represented

by SEQ ID NO:2 in which 1 to 10 amino acids are deleted, substituted and/or inserted,

and is a precursor of an enzyme which shows a protease activity.

5. A polypeptide consisting of an amino acid sequence represented by SEQ ID NO:2, or

a polypeptide consisting of the 51st to 531st amino acid sequence in the amino acid sequence represented by SEQ ID NO:2.

6. A polynucleotide encoding a polypeptide according to any one of claims 1 to 5.

7. An expression vector comprising a polynucleotide according to claim 6.

8. A cell transformed with an expression vector according to claim 7.

9. A method for screening an agent for treating gastrointestinal diseases, which comprises

a step of allowing i) a polypeptide according to claim 1 or claim 2 to contact with ii) a substrate cleavable with said polypeptide and iii) a test substance,

a step of analyzing the cleavage of the substrate
and

a step of selecting a substance inhibiting the
activity for cleaving the substrate.

10. A method for producing a pharmaceutical composition
for treating gastrointestinal diseases, which comprises

a screening step using the screening method
according to claim 9 and

a formulation step using a substance obtainable by
the screening.